

WHAT IS CLAIMED IS:

1. A liquid crystal panel comprising:
 - a driving substrate;
 - pixels on a surface of the driving substrate, each of the pixels including a pixel electrode and a transistor connected to the pixel electrode;
 - signal lines and scanning lines connected to the transistors;
 - an alignment film being rubbed in a direction substantially parallel to the signal lines or the scanning lines;
 - a counter substrate provided adjacent to the alignment film;
 - a liquid crystal layer provided between the driving substrate and the counter substrate; and
 - a projection provided in each of pixels at a substantially central position in a direction perpendicular to the rubbing direction.
2. The liquid crystal panel according to Claim 1, wherein the projection in each pixel is provided at a position between the start and the center in the rubbing direction, the position excluding the center.

3. The liquid crystal panel according to Claim 1, wherein liquid crystal molecules of the liquid crystal layer have a pre-tilt angle of 4° to 20°.

4. The liquid crystal panel according to Claim 1, wherein each of the pixels has a reflective display portion and a transmissive display portion provided in that order in the rubbing direction.

5. The liquid crystal panel according to Claim 1, further comprising walls extending along the borders between adjacent pixels in a direction substantially perpendicular to the rubbing direction.

6. A liquid crystal panel comprising:
a driving substrate;
pixels on a surface of the driving substrate, each of the pixels including a pixel electrode and a transistor connected to the pixel electrode;
signal lines and scanning lines connected to the transistors;
an alignment film being rubbed in a direction substantially parallel to the signal lines or the scanning lines;

a counter substrate provided adjacent to the alignment film; and

a liquid crystal layer provided between the driving substrate and the counter substrate;

wherein liquid crystal molecules of the liquid crystal layer have a pre-tilt angle of 4° to 20° .

7. The liquid crystal panel according to Claim 6, wherein each of the pixels has a reflective display portion and a transmissive display portion provided in that order in the rubbing direction.

8. The liquid crystal panel according to Claim 6, wherein walls extend along the borders between adjacent pixels in a direction substantially perpendicular to the rubbing direction.

9. A liquid crystal panel comprising:

a driving substrate;

pixels on a surface of the driving substrate, each of the pixels including a pixel electrode and a transistor connected to the pixel electrode;

signal lines and scanning lines connected to the transistors;

an alignment film being rubbed in a direction substantially parallel to the signal lines or the scanning lines;

a counter substrate provided adjacent to the alignment film;

a liquid crystal layer provided between the driving substrate and the counter substrate; and

a reflective display portion and a transmissive display portion provided in each of pixels in that order in the rubbing direction.

10. The liquid crystal panel according to Claim 9, wherein walls extend along the borders between adjacent pixels in a direction substantially perpendicular to the rubbing direction.

11. A liquid crystal panel comprising:

a driving substrate;

pixels on a surface of the driving substrate, each of the pixels including a pixel electrode and a transistor connected to the pixel electrode;

signal lines and scanning lines connected to the transistors;

an alignment film being rubbed in a direction substantially parallel to the signal lines or the scanning lines;

a counter substrate provided adjacent to the alignment film;

a liquid crystal layer provided between the driving substrate and the counter substrate; and

walls extending along the borders between adjacent pixels in a direction substantially perpendicular to the rubbing direction.